

GPS DEVICES

INTRODUCTION

Getting a GPS built into your car can cost over £1,000, but you can now buy a good standalone satellite navigation system for as little as £170. Driving with a GPS is usually a stress-free experience, as you don't have to pull over to look at the map or read a list of directions. GPS can also make driving safer because you follow simple voice prompts, keeping your eyes on the road rather than attempting to navigate as you drive. Once you've bought a GPS you can use it without any further costs or subscription fees.

If you already own a smartphone or PDA, you may be able to save more money by converting it into a GPS device. We've tested four kits that turn a smartphone into a GPS, and two software packages that enable you to navigate using your PDA. Whatever type of GPS device you're looking for, we'll help you get from A to B.

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Components and
handhelds expert

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With a satellite navigation system, your days of struggling with maps and of tetchy arguments over missed turnings are history. We test a broad range of GPS devices, kits and software to help you find your way to a bargain



ROAD TEST

Choosing a...
GPS Device

There are so many different GPSs available that the choice can seem overwhelming. This guide helps you find the right system for your needs.

WHAT'S IN THE BOX?

There are three main types of GPS. Standalone systems come with a GPS receiver, maps and a display, all in one box. GPS kits are designed to convert a smartphone or PDA into a GPS device. They include a GPS receiver, which connects via Bluetooth, and mapping software. This month we've tested kits that work with Symbian and Windows Mobile smartphones. Finally, you can buy GPS software. To use this you need a PDA to run it on and a GPS receiver of some kind. It's ideal if you already own a PDA with a receiver built in.

Confusingly, Microsoft now uses the name Windows Mobile to refer to a wide range of handheld devices. In this article we'll use Windows Mobile smartphone to refer to small devices with a keypad, and PDA to refer to larger ones with a touch screen.

IF THE MAP FITS...

GPS software consists of map data and a navigation program that displays it. Most devices use map data provided by Navteq or TeleAtlas. All the GPSs in this group include maps that cover the UK and Ireland, and three include maps of the whole of Western Europe. If

you choose a GPS that covers only the UK and Ireland, you can upgrade it later by purchasing more map data from the manufacturer.

All GPSs let you navigate to a postcode or a street name, and you can also navigate to a point of interest (POI). POIs are divided into categories such as hotels, restaurants and tourist attractions, and all GPSs have a built-in database of these locations.

JAM SESSION

Some systems can receive traffic information automatically. Standalone systems can receive traffic data either from the TMC radio service, which is free to use if you have a TMC receiver, or via GPRS. If you want to use the GPRS service you'll need to connect a GPRS-enabled mobile phone to the system via Bluetooth and subscribe to the traffic service. Smartphone GPS systems use the phone's GPRS connection to receive traffic information, but bear in mind that you'll have to pay for the data you download.

All GPS systems will automatically recalculate the route if you go off course, but if you come across a closed road, you may need to change your route fast. Most systems have a roadblock avoidance feature that can quickly calculate a new route around any obstructions, but some don't. Our reviews will warn you if this is the case.

GPS DEVICES

STANDALONE GPS DEVICES

ACER e310



£175 inc VAT



Acer's e310 is a tiny standalone GPS. It runs the Destinator navigation software and uses Navteq UK and Ireland maps. It's not much bigger than a mobile phone and has useful volume controls under the touch-screen display, so you don't have to mess around in menus just to turn up the volume when driving.

The e310's software runs fairly quickly and is certainly much faster than the Destinator 6 software package running on our test PDA. There are several ways to input an address. You can enter the city then the street name or simply navigate to a postcode or road junction. The onscreen keyboard's buttons are just about large enough to operate with the tip of your finger, but it's easier to use the stylus.

The e310's navigation display is a little cluttered, but the main map is clear. The 3D display has a minimal level of detail but it shows you where you need to go. A clear red line marks your route, and when the e310 gives you a spoken instruction a large arrow flashes on the screen showing you which way to turn. The Acer didn't make any mistakes on our test route and avoided the one-way streets that fooled some of the other systems. There is a toll road-warning option, but the e310 didn't recognise London's Congestion Charge. The only way to avoid roadblocks is to enter the name of the road to avoid before you get there, which isn't much good if you didn't see it coming.

Acer's e310 works well and is good value, but its roadblock support is a bit clunky compared to TomTom's One.

SUMMARY

- ☒ Tiny
- ☒ Software is fairly fast
- ☒ Clunky roadblock support

STANDALONE GPS Integrated
SiRFstar III receiver, Destinator 6
software, UK, Ireland maps
PART CODE CP.H080T.006
SUPPLIER www.clove.co.uk
DETAILS www.acer.co.uk

ACER P610



£200 inc VAT



Unlike the diminutive e310, Acer's P610 is a large widescreen device that runs CoPilot's mapping software. Its screen is very bright and colourful, and the CoPilot mapping software looks good and runs quickly. A pop-up menu in the left-hand corner gives you easy access to the software's main functions, so you can change settings or plan a new trip without having to navigate back to the home screen.

You can enter a city and street name or a postcode. Unusually, the P610 supports only the first five characters of a UK postcode, so you have to enter a street name manually with the onscreen keyboard. The P610 calculates your route quickly, taking just seven seconds to plan a journey from London to Edinburgh.

The P610 was disappointing on the road. It kept flashing a diagram of a roundabout that was over two miles away, causing us to miss a turning that came far before we reached the roundabout. It tried to send us down several one-way streets, but it recalculated quickly when we refused.

The map display is excellent, and the clear night mode is particularly good. The display shows only major road names, but your route is very clear. The CoPilot software is the only package here with a Congestion Charge option that lets you choose whether or not it should alert you if your route crosses the zone.

Acer's P610 is good value and has a great map display, but we weren't particularly impressed with its navigation. It didn't cope well with one-way streets, and the premature roundabout warning nearly meant that we got lost.

SUMMARY

- ☒ Clear display
- ☒ Fast route calculation
- ☒ Navigation errors

STANDALONE GPS Integrated
SiRFstar III receiver, CoPilot Live
6 software, UK, Ireland maps
PART CODE CP.H110T.009
SUPPLIER www.expansys.com
DETAILS www.acer.co.uk

GARMIN nüvi 660



£400 inc VAT



Garmin's nüvi 660 is a top-of-the-range satellite navigation system, and includes full UK and European maps. The first thing you notice about it is its incredible screen. It's bright and very colourful, with beautifully drawn icons. The software runs quickly and is easy to use. You can enter the name of a city, use a full postcode or search for a road name. This is especially useful if you know a street name but don't know exactly where it is. The onscreen keyboard is superb, with huge buttons that respond quickly. Route calculation speeds aren't bad, but the nüvi 660 is one of the few systems here that didn't recognise London's Congestion Charge zone.

The nüvi's excellent map screen is matched only by the Navman N60i's for clarity. It doesn't have as many view modes as the Navman, but its 3D view is even better. Road names are displayed in a large, clear font, and a bold pink line marks your route. The device provides plenty of information about your current location and the next turn, and the map screen updates smoothly. Voice prompts are clear and given in plenty of time, but we found that the 660 sometimes gave its turn reminders too early. This meant that we occasionally turned into the street before the one we wanted. Like TomTom's 510 you can use the 660 as a Bluetooth hands-free set for your mobile phone.

Garmin's 660 has a great screen and some useful extras, but it's very expensive and its navigation software isn't as comprehensive as the Navman N60i's. The nüvi 660 is perfect for showing off, but the Navman N60i is better for navigating.

SUMMARY

- ☒ Clear display
- ☒ Fast software
- ☒ Expensive

STANDALONE GPS Integrated
SiRFstar III receiver, Garmin City
Navigator NT 2.3 software, Europe
maps PART CODE 010-00540-10
SUPPLIER www.expansys.com
DETAILS www.garmin.com

MEDION GoPal PNA460



£200 inc VAT



Medion's GoPal PNA460 is the cheapest standalone GPS here to include maps for the whole of Western Europe. It has a large screen that leaves plenty of room for the map display. You can see a long way ahead, and your route is clearly marked. The map display shows plenty of information, but the font used for street names and route information is very small. This makes it hard to take in the information at a glance while driving. You can enter your destination using a full UK postcode or type in a city followed by a street address. Recent destinations are displayed at the top of the address screen, and the last locations button gives you easy access to previous addresses.

The PNA460's voice prompts are given at the right time but can be confusing. While most GPSs tell you the distance to go followed by the navigation instruction, the PNA460 gives the instruction first, which could fool you into turning at the wrong time. The GoPal tells you the name or the number of the road to turn into, but road numbers aren't much use around town. The PNA460 includes speed camera alerts but didn't recognise the London Congestion Charge zone and has no roadblock-avoidance feature. To get round a blockage we were forced to divert down a side street, hoping that the unit would recalculate the route.

With Western Europe maps and a speed camera alert for only £200, the GoPal is very good value. Its voice prompts are slightly confusing, though, and we'd recommend a GPS that can help you avoid roadblocks.

SUMMARY

- ☒ Good value
- ☒ No roadblock avoidance
- ☒ Confusing voice prompts

STANDALONE GPS Integrated
SiRFstar III receiver, GoPal Navigator
2.0 AE software, Europe maps
PART CODE 30006104
SUPPLIER www.medionshop.co.uk
DETAILS www.medion.co.uk

MIO DigiWalker C250

★★★★★

£179 inc VAT



Mio's C250 is a simple budget GPS that runs Mio's own MioMap software. MioMap runs very quickly and smoothly but isn't the easiest to use. Pressing the Address button brings up a list of recent locations, and to enter a postcode you have to press the Other City button, which isn't immediately obvious. As you type an address with the onscreen keyboard the software narrows down the choices and automatically displays a shortlist. The C250 calculates routes incredibly quickly, taking just four seconds to plot a route from the *Shopper* offices to Edinburgh.

The C250 has a planning mode and a cockpit mode for driving, each with its own set of options and settings. This is fine in principle, but in practice we found ourselves switching between the different modes trying to find a particular option. Once in cockpit mode and on the road, though, we were pleasantly surprised. Instructions were given in plenty of time and repeated at the junction, but we found the unit to be too verbose at times as it constantly reminded us of upcoming junctions.

As you approach a roundabout the C250 displays an icon with the number of the exit you need to take, which combined with the 3D display makes it hard to take the wrong one.

The map screen is clear, especially in its minimalist night mode, but we found it too sparse at times and the route we needed to take wasn't always obvious from the map. The C250 beeps when you're approaching a speed camera.

The C250 is good value and works well. Its software can be confusing at times, though, so we prefer TomTom's simpler One.

SUMMARY

- ✓ Clear display
- ✓ Fast route calculation
- ✗ Confusing software

STANDALONE GPS Integrated
SiRFstar III receiver, MioMap 3
software, UK, Ireland maps
PART CODE 526216260002
SUPPLIER www.clove.co.uk
DETAILS www.mio-tech.be

NAVMAN N60i

★★★★★

£360 inc VAT



Navman's N60i is its top-of-the-range standalone navigation system. It's one of only three systems in the group to include full European maps, and it has a built-in camera. This camera has only 1.3 megapixels, so it's not meant to replace your digital camera. Instead, it's a navigation tool: when you take a photo, the N60i encodes the latitude and longitude at which you took it into the picture. This means that you can navigate back to a particular spot by selecting the picture rather than having to remember an address, and you can download pictures from around the world from the NavPix website.

Despite its slow route calculation, the N60i is a capable navigation device. Much of this is down to its multiple display modes. While most of the GPSs in the group have the option of 3D or 2D views, the N60i has four separate viewpoints. Along with the 3D and overhead 2D display, there is a simple mode that shows only an arrow with the next turn and a map of the junction. This is less distracting and also lets you see the layout of a junction before you get there. In addition there's a turn-by-turn view that lists your itinerary. The default 3D view is clear, with a green line showing your route and a 3D arrow showing the route through junctions. You switch between modes using a short cut button on the right of the display, which is a more convenient way of doing things than going through several menus.

With several useful map views and clear voice prompts, the N60i got us where we needed to go. It costs a fortune, but it's a fantastic navigation system.

SUMMARY

- ✓ Clear display
- ✓ Several map views
- ✗ Expensive

STANDALONE GPS Integrated
SiRFstar III receiver, Navman SmartST
2006 SE software, Europe maps
PART CODE N60i
SUPPLIER www.dabs.com
DETAILS www.navman.com

TOMTOM Go 510

★★★★★

£282 inc VAT



The Go 510 is from TomTom's more upmarket 500 range. It has a widescreen display and can be used as a Bluetooth hands-free set for your mobile phone.

The 510 has a larger screen than the TomTom One, but at 4in it's not quite as large as those on the Medion PNA460, Garmin nüvi 660 or Navman N60i. Like the TomTom One the 510 is very easy to use, and the navigation software is the most responsive in this test. It can download traffic information over your mobile phone's GPRS connection, but you have to sign up for a subscription with the TomTom Plus service. One of the 510's most useful features is the hands-free phone application. Once you've connected to your mobile by Bluetooth, you can dial a number on the 510's screen and it will make a call using your phone. If you select a nearby point of interest such as a hotel, it will dial the number for you.

The 510 shares the One's excellent roadblock feature, and has an integrated speed camera database. It has comprehensive voice prompts, and its distinction between 'bear left' and 'turn left' makes some junctions less confusing. Unfortunately, the 510 made more mistakes during our road test than the cheaper TomTom One, sending us down a bus-only road and a cul-de-sac.

TomTom's 510 is easy to use and has some useful features that the One lacks, but it's much more expensive. It made some navigation errors, too. The cheaper One is a better buy, and if you want speed camera alerts, pick the Mio C250.

SUMMARY

- ✓ Fast and simple software
- ✓ Excellent roadblock avoidance
- ✗ Navigation errors

STANDALONE GPS Integrated
SiRFstar III receiver, TomTom
Navigator software, UK, Ireland maps
PART CODE 5V00.560
SUPPLIER <http://uk.insight.com>
DETAILS www.tomtom.com

TOMTOM One Regional

★★★★★

£185 inc VAT



TomTom's inexpensive One is as easy to use as its more expensive relation. The huge buttons on the home screen are easy for even clumsy fingers to press, and the software runs quickly with almost no delays.

The One is compact, but its 3.5in screen has a standard rather than widescreen aspect. The screen has a fairly low resolution of 320x240 pixels, so there isn't as much room for map information. Despite this, the map screen is intelligible and updates smoothly. Voice prompts are clear and given well in advance, but they aren't as comprehensive as the 510's.

To find your destination you can enter the city and street name, or tap in a postcode. You can also go straight to the centre of a city. As with all the GPS systems, the City field also covers towns and villages. The One took 16 seconds to plot a route to Edinburgh, but it's not the slowest here.

The One didn't make any mistakes on our test route, and the TomTom software has by far the best roadblock-avoidance function in the group. If you come to a closed road, you press the "avoid roadblock" button and specify how far ahead the problem lies. If you know a road is closed in advance you can tell the software to avoid it. Speed camera alerts are available, but you have to subscribe to the TomTom Plus service and connect a phone to download the information.

TomTom's One has few frills and is a little more expensive than Mio's C250, but it is very easy to use and navigates accurately. It's the best-value device here.

SUMMARY

- ✓ Fast software
- ✓ Easy to use
- ✓ Excellent roadblock avoidance

STANDALONE GPS Integrated
SiRFstar III receiver, TomTom
Navigator software, UK, Ireland maps
PART CODE 5N00.110
SUPPLIER www.comet.co.uk
DETAILS www.tomtom.com

GPS KITS

ALK CoPilot Live smartphone 6

★★★★★

£180 inc VAT



CoPilot makes navigation software for standalone GPSs and Windows Mobile handhelds. This edition runs on Windows Mobile 5 smartphones.

The smartphone edition of CoPilot runs far more quickly than the version designed for larger PDAs. Its interface isn't particularly easy to use, though, as it uses an odd mixture of menus and icons. The home screen has icons for the software's main functions, but once you are on the map screen you have to select options from a text list.

Entering an address into CoPilot is harder than it is in the Route 66 software. You have to choose between entering a postcode or a place and street name rather than simply inputting as much information as you can. CoPilot recognises London's Congestion Charge zone, and you can set it to avoid toll roads. The mapping display is sparse and clear, and its night mode is less distracting and easier on the eyes when driving in darkness. There is also a simpler safety mode, which shows only an arrow with the next turn instruction and the distance to that turn. The software kept up with us on our test route, but it wasn't too clear where we were when several streets were grouped together. The roadblock feature got us out of trouble on one occasion.

CoPilot Live smartphone 6 isn't as easy to use as Route 66, but its navigation is just as accurate and it has the all-important roadblock feature. It's the best bet if you have a Windows Mobile smartphone that you want to use for navigation.

SUMMARY

- ✓ Clear display
- ✓ Fast software
- ✗ Confusing interface

GPS KIT Bluetooth SiRFstar III receiver, CoPilot Live 6 software, UK, Ireland maps
PART CODE CPL6SP-BT-UKIRE
SUPPLIER www.inkino.co.uk
DETAILS www.alk.com

NAVICORE Personal 2007 Multiplatform Package

★★★★★

£150 inc VAT



Navicore's Personal 2007 software runs on Nokia smartphones that use the Symbian Series 60 2nd or 3rd Edition operating system, and on Sony Ericsson smartphones that use Symbian UIQ. We tested it on a Nokia N71, which runs Symbian Series 60 2nd Edition. The kit comes with a Bluetooth GPS receiver, but you'll need a windscreen or dashboard mount to hold your phone in position.

The interface mirrors that of the smartphone on which it's installed. Menus are arranged in text lists, which enables the software to run quickly. You can enter a postcode, a city and street name or just a street name, choosing the correct one from a list. Navicore searches its street database quickly but took more than 30 seconds to calculate a route to Edinburgh.

The simple mapping screen offers a choice of 3D and top-down 2D displays, but the 3D view doesn't include street names. You can see a long way ahead in 3D mode, and an arrow indicating your next turn is always onscreen. The map updates smoothly, and voice prompts are clear, although they are sometimes given too early. There's also a built-in speed camera database and free traffic information. The roadblock feature is superb.

Navicore's Personal 2007 is a fast and comprehensive navigation system. It's the Best Buy for Symbian Series 60 smartphones.

SUMMARY

- ✓ Clear display
- ✓ Fast software
- ✓ Excellent roadblock avoidance

GPS KIT Bluetooth SiRFstar III receiver, Navicore 2007 software, UK, Ireland maps
SUPPLIER Mobile Fun 08704 204001, www.mobilefun.co.uk
DETAILS www.navicoretech.com

ROUTE 66 Mobile 7 Windows Mobile Smartphone

★★★★★

£187 inc VAT



This new version of Route 66 runs on Windows Mobile 5 smartphone handsets. Its friendly interface makes it a joy to use. It pairs automatically with the supplied GPS receiver, and the main menu is well designed.

One of Route 66's greatest strengths is its search system. Rather than having to specify a postcode, a city or street name or even a point of interest, you are given a single box into which you type as much information as you can. The software takes only a few seconds to search its database. Once you've selected a destination, though, route calculation isn't fast. It took 29 seconds to map a route from London to Edinburgh.

Route 66's map display shows a wealth of information, with tiny icons indicating the points of interest you're passing. You'll need to memorise what these icons mean before you set off, though, as they're so small that it's not immediately obvious what each represents. The 3D view displays road names. Voice prompts are given in good time before a turning, and the software didn't make any mistakes on our test route. The software can download free traffic information through your phone's GPRS connection, but surprisingly it has no roadblock feature.

Route 66 works well and would be a good alternative to CoPilot Live smartphone 6, but the lack of a roadblock avoidance function is significant. We recommend choosing CoPilot instead.

SUMMARY

- ✓ Easy to use
- ✓ Great search system
- ✗ No roadblock avoidance

GPS KIT Bluetooth SiRFstar III receiver, Route 66 Mobile 7 software, UK, Ireland maps
PART CODE GBR/IRL-7000-WMS
SUPPLIER www.expansys.com
DETAILS www.66.com

NAVMAN Travel Assist S60

★★★★

£150 inc VAT



Navman makes standalone navigation systems and software for Windows Mobile PDAs, but this is the company's first Symbian smartphone kit. It runs on only a limited number of Nokia smartphones that use the Symbian Series 60 2nd Edition operating system. Check for compatibility at <http://tinyurl.com/yJfc2h>.

The Navman software is simple, but it runs incredibly quickly. Like the Navicore software, it uses lists of options rather than icons. You can navigate to a postcode, but if you don't have the postcode you have to enter a village, town or city name. If your phone is set to predictive text mode it is practically impossible to enter a street address. There is also no icon to tell you which text mode you are currently in, so you have to stab wildly at the text mode key until you can type normally.

The Navman S60 software supports NavPix using the phone's camera. This allows you to take a picture of a location and navigate back to it later. The Navman's voice prompts were clear and helpful as we drove, but the 3D display doesn't extend very far in front of your current position. This means that it's sometimes unclear where to go. The software has no option for avoiding toll roads or the Congestion Charge, and there is no way to avoid roadblocks manually.

Navman's Travel Assist S60 is very fast and has good voice prompts, but inputting addresses is problematic. Although the NavPix feature is clever, we would rather it included vital tools such as roadblock avoidance. If you have a Symbian smartphone, Navicore Personal 2007 is a better buy.

SUMMARY

- ✓ Fast software
- ✗ Annoying text input
- ✗ No roadblock avoidance

GPS KIT Bluetooth SiRFstar III receiver, Navman Travel Assist software, UK, Ireland maps
SUPPLIER www.navman.com
DETAILS www.navman.com

GPS DEVICES

GPS SOFTWARE

ALK CoPilot Live 6 Pocket PC

★★★★

£85 inc VAT



CoPilot Live 6 Pocket PC is ALK's navigation software for Windows Mobile PDAs and large smartphones that have a touch-screen display rather than a keypad. As well as this software you'll need a PDA with a built-in GPS receiver or a Bluetooth receiver to make it work.

Setting up a Bluetooth receiver is easier with this than with the Destinator software. The software searches for a Bluetooth GPS receiver and pairs with it automatically. The CoPilot software is designed for use without a stylus, so its colourful icons are large enough to prod with a finger. A pop-up menu bar on every screen provides permanent access to the main functions. The software runs far more quickly than Destinator, but it's still a bit sluggish compared with CoPilot's smartphone edition.

Unlike the CoPilot software installed on Acer's standalone P610, CoPilot for Pocket PC supports full UK postcodes. One of CoPilot's main advantages is that it's very easy to set multiple stops on a journey, so it's perfect for long road trips. It calculates your route quickly, taking just nine seconds to find the way to Edinburgh.

The map display is clear, and the night mode helps reduce glare when driving.

Unfortunately, the software got into trouble several times on our test route. Like the Destinator PDA software, it was fairly slow to update so we got lost in small suburban streets. This software is easier to use than Destinator 6 for PDAs, but it's disappointingly slow compared with the smartphone version.

SUMMARY

- ✓ Fast route calculation
- ✓ Easy Bluetooth setup
- ✗ Slow software

GPS SOFTWARE No GPS receiver, CoPilot Live 6 software, UK, Ireland maps PART CODE CPL6PPCSWUKIRE SUPPLIER www.globalpositioning-systems.co.uk DETAILS www.alk.com

DESTINATOR 6 for PDAs & TrafficSam

★★★

£150 inc VAT



Like CoPilot Live 6 for Pocket PC, Destinator 6 for PDAs works with Windows Mobile PDAs and larger smartphones that use a touch screen instead of a keypad.

Destinator 6 is a software-only package, so you'll need to install it on a PDA with an integrated GPS receiver or use a separate Bluetooth receiver. Setting up the software with the receiver isn't particularly easy, as the integrated GPS setup program doesn't let you search for Bluetooth devices. You have to use Windows Mobile's own Bluetooth setup program to connect the PDA and Bluetooth receiver before launching Destinator.

Entering an address is easy. You can input a postcode or a place and street name. Unfortunately, the software is very slow and is prone to annoying pauses. The software also suffers from lag when you're driving and the 3D display updates very slowly. The map display zooms right in when you're driving slowly, so it's obvious where you are once the software has caught up. Destinator 6 supports TMC traffic information, which is free as long as you have a TMC-compatible GPS receiver.

Aside from the fiddly Bluetooth setup, Destinator 6 for PDAs is easy to use. The support for traffic information is a bonus, and you don't have to pay any GPRS charges for traffic information. Unfortunately, the software is just too slow to recommend and it costs too much.

SUMMARY

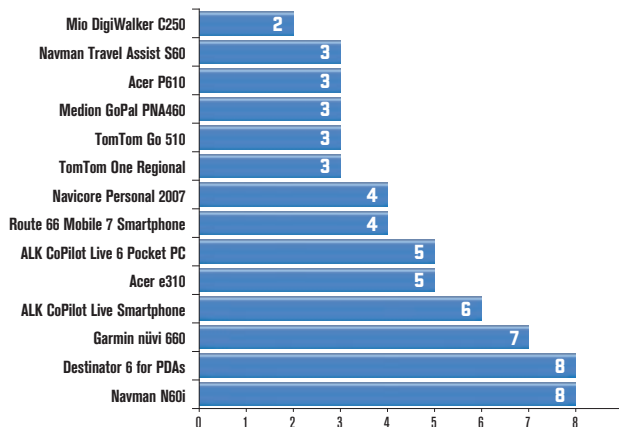
- ✓ Clear display
- ✗ Fiddly Bluetooth setup
- ✗ Slow software

GPS SOFTWARE No GPS receiver, Destinator 6 software, Europe maps PART CODE DESTIN6GPS SUPPLIER www.smartdevicesdirect.com DETAILS www.destinator6technologies.com

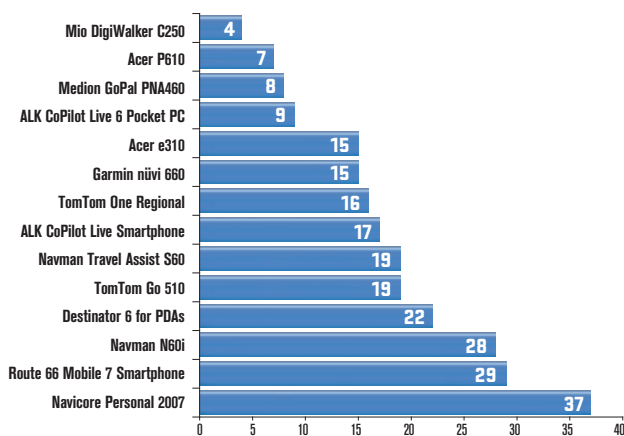
BENCHMARKS

Route calculations Calculation time

London W1 to Clapham (seconds)



London W1 to Edinburgh (seconds)



Our benchmarks show how quickly each GPS can plan a route for a short and a long journey. Fast route calculation saves you time before you set off but is also important if a wrong turn forces a recalculation en route. We time one journey from our office in central London to Clapham in South London, and one to the centre of Edinburgh.

Labs verdict GPS Devices

We were impressed by how much satellite navigation systems have improved since our last GPS group test a year ago. Nearly all the systems here will get you to your destination, but some do it more easily, and others include some clever features to help along the way.

If you have a Windows Mobile 5 PDA and you don't mind buying a separate GPS receiver, CoPilot Live 6 Pocket PC is a competent navigation system. If you want to convert your Nokia smartphone into a GPS device, Navicore's Personal 2007 is a fast and capable navigation package, and you also get free traffic information and a clever roadblock avoidance feature. It's our Best Buy. If you've got a Windows Mobile 5 smartphone, the best choice is CoPilot Live smartphone 6, which has a clear navigation display and fast interface.

Most of the standalone units we tested work well. Navman's N60i has a brilliant map display, but unless you'll use its camera and NavPix feature it's expensive. TomTom's One Regional is almost as good, and it costs just £185 including VAT. It's our Best Buy.

GPS KIT

BEST BUY NAVICORE
Personal 2007
Multiplatform Package
★★★★★



STANDALONE GPS DEVICE

BEST BUY TOMTOM
One regional
★★★★★





STANDALONE GPS DEVICES

MANUFACTURER	ACER	ACER	GARMIN	MEDION	MIO	NAVMAN	TOMTOM
Model	e310	P610	nüvi 660	GoPal PNA460	DigiWalker C250	N60i	Go 510
Rating	★★★★	★★★	★★★	★★★	★★★★★	★★★★	★★★★
HARDWARE							
Type	Standalone GPS	Standalone GPS	Standalone GPS	Standalone GPS	Standalone GPS	Standalone GPS	Standalone GPS
Compatible operating system	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Display	2.8in, 240x320	4in, 480x272	4.3in, 480x272	4.3in, 480x272	3.5in, 320x240	4.3in, 320x272	4in, 480x272
Connectivity	None	None	Bluetooth	None	None	None	Bluetooth
Memory card type	SD	SD	SD	MMC	SD, MMC	SD	SD
Memory card included	256MB	256MB	None	2GB	None	None	256MB
GPS receiver	Integrated SiRFstar III	Integrated SiRFstar III	Integrated SiRFstar III	Integrated SiRFstar III	Integrated SiRFstar III	Integrated SiRFstar III	Integrated SiRFstar III
Accessories	Windscreen mount, car charger	Windscreen mount, car charger, USB cable	Windscreen mount, mains/car charger, USB cable	Windscreen/dash-board mount, mains/car charger	Windscreen mount, car charger, USB cable	Windscreen mount, mains/car charger, USB cable	Windscreen mount, mains/car charger, USB cable
Camera	N/A	N/A	N/A	N/A	N/A	1.3MP	N/A
Extras	MP3 player	MP3 player, picture viewer, address book	MP3 player, audio book player, picture viewer, hands-free	MP3 player, picture viewer, city guides	MP3 player	N/A	Hands-free
Size	103x58x18mm	81x116x23mm	74x124x23mm	90x130x20mm	81x108x24mm	83x139x23mm	81x112x66mm
Weight	130g	195g	190g	200g	110g	240g	300g
MAPPING							
Navigation software	Destinator 6	CoPilot Live 6	Garmin City Navigator NT 2.3	GoPal Navigator 2.0 AE	MioMap v3	Navman SmartST 2006 SE	TomTom Navigator
Map data	Navteq	Navteq	Navteq	Navteq	TeleAtlas	TeleAtlas	TeleAtlas
Countries covered	UK, Ireland	UK, Ireland	Europe	Europe	UK, Ireland	Europe	UK, Ireland
Traffic information	None	None	TMC	None	Optional TMC	Optional TMC	Optional GPRS
Toll road warning	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Roadblock avoidance	Yes	Yes	Yes	No	Yes	Yes	Yes
BUYING INFORMATION							
Price inc VAT	£175	£200	£400	£200	£179	£360	£282
Supplier	www.clove.co.uk	www.expansys.com	www.expansys.com	www.medionshop.co.uk	www.clove.co.uk	www.dabs.com	http://uk.insight.com
Details	www.acer.co.uk	www.acer.co.uk	www.garmin.com	www.medion.co.uk	www.mio-tech.be	www.navman.com	www.tomtom.com
Part code	CP.H080T.006	CP.H110T.009	010-00540-10	30006104	5.26216E+11	N60i	5V00.560

	BEST BUY	GPS KITS	BEST BUY	GPS SOFTWARE			
MANUFACTURER	TOMTOM	ALK	NAVICORE	NAVMAN	ROUTE 66	ALK	DESTINATOR
Model	One Regional	CoPilot Live smartphone 6	Personal 2007 Multiplatform Package	Travel Assist S60	Mobile 7 Windows Mobile Smartphone	CoPilot Live 6 Pocket PC	6 for PDAs & TrafficSam
Rating	★★★★★	★★★★★	★★★★★	★★★	★★★★	★★★	★★
HARDWARE							
Type	Standalone GPS	GPS kit	GPS kit	GPS kit	GPS kit	GPS software	GPS software
Compatible operating system	N/A	Windows Mobile 5 (smartphone)	Symbian Series 60, Series 80, UIQ	Symbian Series 60 2nd Edition	Windows Mobile 5 (smartphone)	Windows Mobile 5	Windows Mobile 5
Display	3.5in, 320x240	N/A	N/A	N/A	N/A	N/A	N/A
Connectivity	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth	N/A	N/A
Memory card type	SD	MiniSD (SD adaptor)	N/A	RS-MMC	MiniSD (SD adaptor)	N/A	N/A
Memory card included	1GB	256MB	N/A	512MB	256MB	N/A	N/A
GPS receiver	Integrated SiRFstar III	Bluetooth SiRFstar III	Bluetooth SiRFstar III	Bluetooth SiRFstar III	Bluetooth SiRFstar III	N/A	N/A
Accessories	Windscreen mount, car charger, USB cable	Dash-board mount, car charger, USB cable	Mains/car charger	Car charger, USB cable	Windscreen/dash-board mount, car charger	N/A	N/A
Camera	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Extras	None	N/A	N/A	N/A	N/A	N/A	N/A
Size	96x82x25mm	N/A	N/A	N/A	N/A	N/A	N/A
Weight	174g	N/A	N/A	N/A	N/A	N/A	N/A
MAPPING							
Navigation software	TomTom Navigator	CoPilot Live 6	Navicore 2007	Navman Travel Assist	Route 66 Mobile 7	CoPilot Live 6	Destinator 6
Map data	Navteq	Navteq	TeleAtlas	Navteq	Navteq	Navteq	Navteq
Countries covered	UK, Ireland	UK, Ireland	UK, Ireland	UK, Ireland	UK, Ireland	UK, Ireland	Europe
Traffic information	Optional GPRS	GPRS	GPRS	GPRS	GPRS	GPRS, optional TMC	TMC
Toll road warning	Yes	Yes	Yes	No	Yes	Yes	Yes
Roadblock avoidance	Yes	Yes	Yes	No	No	Yes	Yes
BUYING INFORMATION							
Price inc VAT	£185	£180	£150	£150	£187	£85	£150
Supplier	www.comet.co.uk	www.inkino.co.uk	www.mobilefun.co.uk	www.navman.com	www.expansys.com	www.globalpositioning systems.co.uk	www.smartdevices direct.com
Details	www.tomtom.com	www.alk.com	www.navicoretech.com	www.navman.com	www.66.com	www.alk.com	www.destinator technologies.com
Part code	5N00.110	CPL6SP-BT-UKIRE	None	None	GBR/IRL-7000-WMS	CPL6PPCSWUKIRE	DESTIN6GPS